REMARKS

This Amendment responds to the Office Action dated July 13, 2005 in which the Examiner rejected claims 1-5 and 11 under 35 U.S.C. §102(e) and rejected claims 6-10 under 35 U.S.C. §103.

Applicants respectfully request the Examiner acknowledge the Information Disclosure Statement filed July 25, 2005.

As indicated above, Claims 7 and 9 have been incorporated into claim 1. The amendment is unrelated to a statutory requirement for patentability.

Claim 1 claims a head slider with a precise positioning actuator, comprising a thin plane shaped head section and an actuator section. The thin plane shaped head section is provided with a first surface that is substantially perpendicular to an air bearing surface of the head slider, a second surface opposite to the first surface, side surfaces perpendicular to the first and second surfaces, and at least one head element formed on the first surface. The actuator section is for precisely positioning the at least one head element. The actuator section includes a) a pair of movable arms, b) a base to be fixed to a support means of the head slider; the pair of movable arms extending from the base, and c) a static part coupled with the base and formed between and spaced from the pair of movable arms.

Through the structure of the claimed invention having an actuator section including a base fixed to a support means of the head slider, a pair of movable arms extending from the base along the air bearing surface and a static part coupled with the base and formed between and spaced from the pair of movable arms, as claimed in claim 1, the claimed invention provides a head slider with a precision positioning actuator in which no displacement will occur at the air bearing surface formed on the

formed on the static part of the actuator section so that the attitude of the air bearing surface will not change in order to keep a stable flying characteristic of the slider. The prior art does not show, teach or suggest the invention as claimed in claim 1.

Claims 1-5 and 11 were rejected under 35 U.S.C. §102(e) as being anticipated by *Yanagisawa* (U.S. Patent No. 6,487,045). In addition, claims 6-10 were rejected under 35 U.S.C. §103 as being unpatentable over *Yanagisawa* and further in view of *Novotny* (U.S. Patent No. 6,289,564).

Yanagisawa appears to disclose a magnetic head in which a recording/reproduction element is mounted on a magnetic head slider via a piezoelectric element so that the position of the recording/reproduction element can be adjusted in job mode by displacement of the piezoelectric element 9 (col. 1, lines 11-15). FIG. 1 is a perspective view of a magnetic head (magnetic head slider) according to a first embodiment of the present invention. FIG. 1 shows a magnetic head floating plane (facing a magnetic disc) upward. The magnetic head (magnetic head slider) shown in FIG. 1 includes a slider substrate 11, a piezoelectric element 14 sandwiched by electrodes 15a and 15b, and a recording/reproduction element 12. A floating plane 13 is formed on the surface of the slider substrate 11. The piezoelectric element 14 is attached to the rear end surface (air flow out end) of the slider substrate 11 via one of the electrodes 15a. On the side of the other electrode 15b of the piezoelectric element 14, the recording/reproduction element 12 is arranged. The piezoelectric element 14 is displaced when an electric field is applied between the electrodes 15a and 15b. In the case when the polarization direction 16 of the piezoelectric element 14 is perpendicular to the electric field, the piezoelectric element 14 is displaced in a direction perpendicular to the electric field. The

magnetic head 1 in FIG. 1 uses the piezoelectric element 14 whose polarization direction 16 is a spacing direction between the magnetic head slider and the magnetic disc. Accordingly, when an electric field is applied to the piezoelectric element 14, the recording/reproduction element 12 is displaced in the spacing direction 17 (col. 8, lines 39-64).

Thus, *Yanagisawa* merely discloses a floating plane 13 formed on the surface of a slider substrate 11. Nothing in *Yanagisawa* shows, teaches or suggests an actuator section including a) a base fixed to a support means of a head slider, b) a pair of movable arms extending from the base along an air bearing surface and c) a static part coupled with the base and formed between and spaced from the pair of movable arms as claimed in claim 1. Rather, *Yanagisawa* merely discloses a slider substrate 11 having a floating plane 13 formed on a surface thereof.

Novotny et al. appears to disclose a high resolution head positioning mechanism having one or more piezoelectric elements attached to a slider as a bendable cantilever for selectively moving a head portion of the slider radially with respect to circumferential data tracks of a rotatable disc (col. 1, lines 18-22). FIG. 2 is a top view and FIG. 3 is a side view of slider 24 including piezoelectric microactuator 42a and structural element 42b to enable high resolution positioning of head 41 according to the present invention. Slider 24 includes a head portion 40 carrying transducing head 41 and also includes air gap or space 44 between head portion 40 of slider 24 and the remaining portion of slider 24. Microactuator 42a and structural element 42b are disposed on the side surfaces of slider 24 near its distal end, connecting head portion 40 to the remainder of slider 24. Microactuator 42a is a structural element operable as a bendable cantilever to alter the position of head

portion 40 with respect to main portion 38. Structural element 42b is preferably a microactuator similar and complementary to microactuator 42a, but may alternatively be a layer of structural material such as silicon nitride (Si.sub.3 N.sub.4) or polysilicon, for example, to provide some flexibility while prevent undesired vibrations that could affect the position of transducing head 41. Transducing head 41 comprises an inductive write head and/or a magnetoresistive read head, for example, as is well known in the art. Transducing head 41 is desirably positioned directly over a data track on a rotating disc to read and/or write data from and/or to the disc. In operation, slider 24 is coarsely positioned adjacent a selected data track by activating VCM 12 to move actuator arm 16 (FIG. 1) carrying slider 24. To finely position transducing head 41 over the selected track, control signals are applied to piezoelectric microactuator 42a to cause bending of microactuator 42a and consequent bending of structural element 42b. When structural element 42b is a microactuator, control signals are also applied to microactuator 42b to cause bending complementary to microactuator 42a. Bending of microactuators 42a and 42b is controlled to selectively alter the position of transducing head 41 in the direction of arrows 46, thereby precisely positioning transducing head 41 directly over the selected track on the disc (col. 3, line 43 through col. 4, line 11).

Thus, *Novotny* merely discloses a slider 24, an air gap 44, a head 40, a microactuator 42a and a structural element 42b. Nothing in *Novotny* shows, teaches or suggests an actuator section including a) a base to be fixed to a support means of a heat slider, b) a pair of movable arms extending from the base along an air bearing surface and c) a static part coupled with the base and formed between and spaced from the pair of movable arms as claimed in claim 1. Rather, *Novotny* merely

discloses a slider 24, microactuator 42a, structural element 42b, air gap 44 and head 40.

Since neither *Yanagisawa* or *Novotny* show, teach or suggest the primary features as claimed in claim 1, Applicants respectfully request the Examiner withdraws the rejection to claim 1 under 35 U.S.C. §102(e) or in the alternative under 35 U.S.C. §103.

Claims 8 and 10-11 depend from claim 1 and recite additional features. Applicants respectfully submit that claims 8 and 10-11 would not have been obvious within the meaning of 35 U.S.C. §103 over *Yanagisaws* and *Novotny* at least for the reasons as set forth above. Therefore, Applicants respectfully request the Examiner withdraws the rejection to claims 8 and 10-11 under 35 U.S.C. §103.

The prior art of record, which is not relied upon, is acknowledged. The references taken singularly or in combination do not anticipate or make obvious the claimed invention.

Thus is now appears that the application is in condition for reconsideration and allowance. Reconsideration and allowance at an early date are respectfully requested.

If for any reason the Examiner feels that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed within the current set shortened statutory period, Applicants respectfully petition for an appropriate extension of time.

The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL PC

Date: October 3, 2005

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